

A decorative graphic at the top of the slide showing a splash of clear water with several bubbles, set against a background of light blue diagonal lines.

# CONVERSION OF WASTE PLASTIC INTO REFINED CHEMICALS

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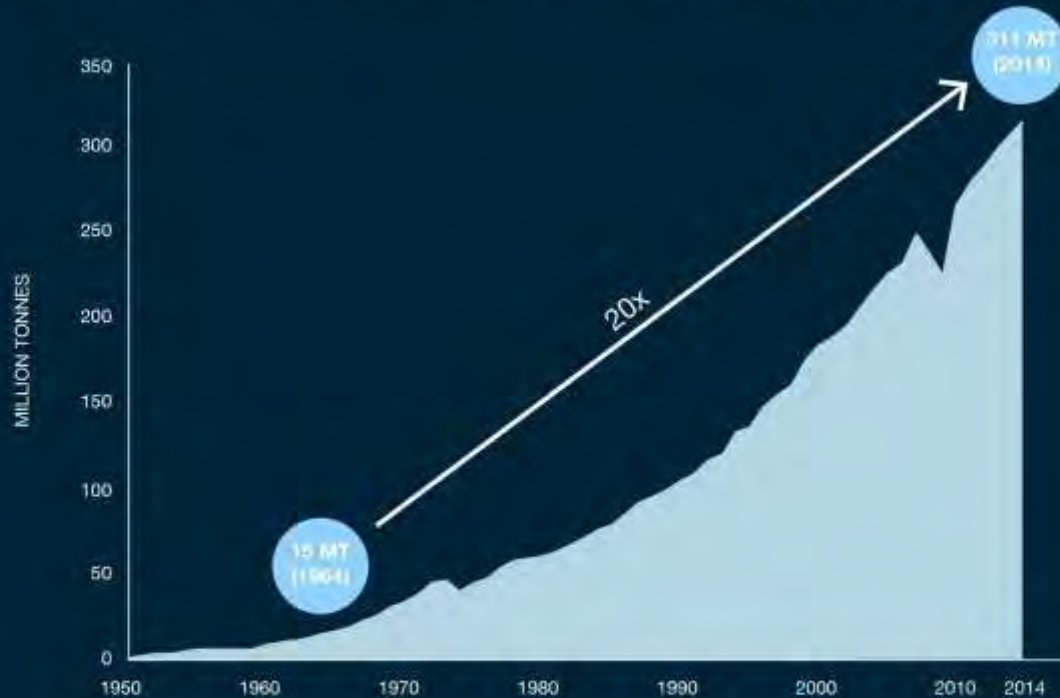
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# World Plastics Production 1950 – 2014

PLASTICS PRODUCTION INCREASED TWENTY-FOLD OVER THE LAST 50 YEARS



WORLD ECONOMIC FORUM, ELLEN MACARTHUR FOUNDATION, MCKINSEY & COMPANY,  
A NEW PLASTICS ECONOMY: REIMAGINING THE FUTURE OF PLASTICS (2014)  
WWW.WEF.ORG/EN/OPPORTUNITIES

NOTE: Production from virgin plastic-based feedstock only (does not include bio-based, greenhouse gas-based or recycled feedstocks)  
SOURCES: PlasticsEurope, Plastics – the Facts 2013 (2013); PlasticsEurope, Plastics – the Facts 2014 (2014)

## Global Plastic Production Rises, Increase in quantity of waste

The global plastic industry produces

**322 million**

**tons** of plastic worth

**\$600 billion** annually

**22-43%**

of plastic worldwide is disposed of in landfills

Approximately

**10-20**

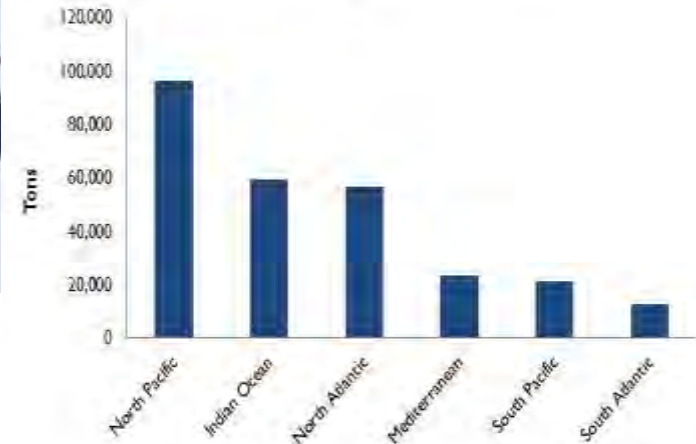
million tons of plastic ends up in the oceans each year

China receives **56%** of waste plastic imports worldwide

# PLASTIC POLLUTION IN THE WORLD'S OCEANS



Figure 3. | Plastic Pollution in the World's Oceans, 2014



© Worldwatch Institute

Source: Marcus Eriksen et al., 2014

## SOUTHERN AFRICA POLLUTION



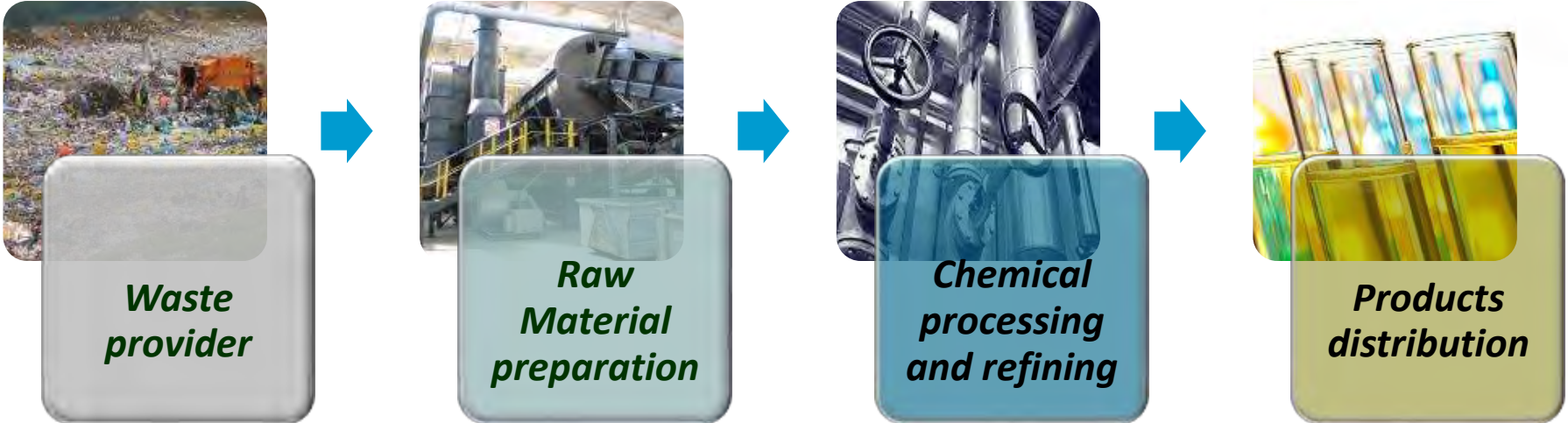
# WHY WASTE PLASTIC RECYCLE?



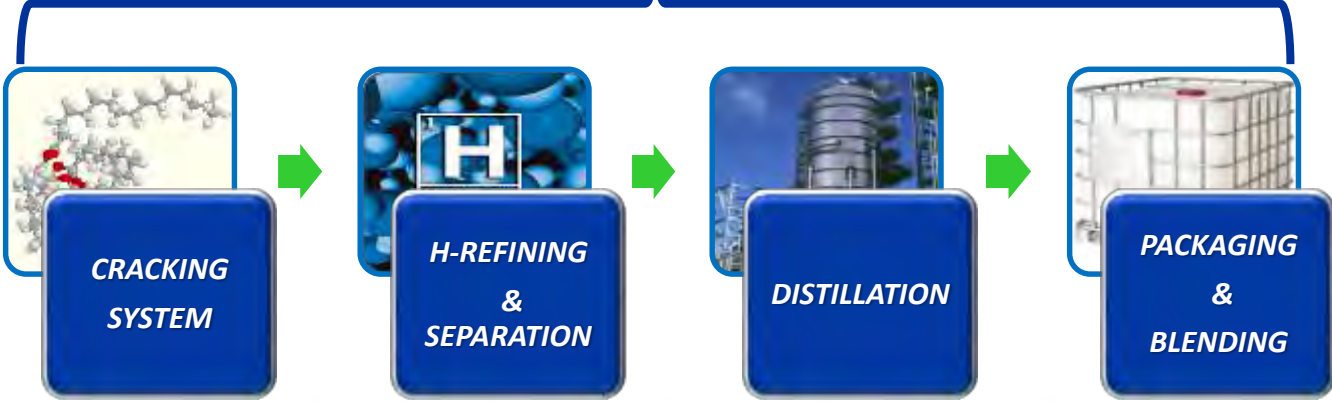
- Waste plastic choking our environment – hundreds of years for plastic to degrade
- Destroying our land and sea wildlife, source of food
- More than fifty years of plastic waste

**WORLD ONLY RECENTLY WAKING UP TO THESE REALITIES**

# Clariter transforms mixed plastic waste into pure chemicals



## Clariter's process



# The concept - from waste to products



Sort



Shred



Municipal Waste Stream

PS, PP, PE only

Clean/ wash



Clariter's prepared Feedstock



Clariter's chemical process



Clariter's product families



## **RANGE OF REFINED PRODUCTS FROM WASTE PE AND PP:**

- Solvents
- Oils
- Waxes

*The production of these useful products from waste plastic will in the future also reduce the large volumes of crude oil required to produce similar products*

# CLARITER PILOT PLANT IN POLAND



# ISP CONSTRUCTION IN EAST LONDON



# MARINE PLASTIC SIMULATION



- Mixture of waste PE and PP subjected to saline solution for an extended period
- Clariter process using this waste plastic gave similar products to that derived from municipal waste without damage to our original process
- Future work on Ocean Plastics: closer simulation to ocean conditions, i.e. UV radiation and wave simulation

# MARINE PLASTIC CONVERSION



- **Clariter is ready to test samples of marine waste plastic on its pilot plant, and later on its Industrial Scale Plant in East London – this could be a solution to decrease the amount of waste plastic in the oceans**
- **A sample of marine waste plastic (at least 100 kg) is required**



# THANK YOU FOR YOUR ATTENTION

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